



OWNER'S MANUAL
Model Number

700312-5



BERCO
Rotary Tiller
Universal mount for
YARD & GARDEN
Tractors

* ASSEMBLY
* OPERATION

* REPAIR PARTS
* MAINTENANCE

CAUTION:
**READ & FOLLOW ALL SAFETY RULES & INSTRUCTIONS BEFORE
OPERATING YOUR EQUIPMENT**



LIMITED WARRANTY

Conditions and Products Covered:

BERCOMAC guarantees any part of the product or accessory manufactured by BERCOMAC and found in the reasonable judgment of BERCOMAC to be defective in material and or workmanship will be repaired or replaced by an authorized dealer without charge up to our maximum labor rates and pre-established times. For replacement parts only standard ground freight services are covered. This warranty extends to the original retail purchaser only and is not transferable to any subsequent purchasers. This warranty applies to the products bought and used in North America.

Warranty Period

(from date of the original retail purchase)

- Residential use: 1 year
- Semi-commercial, professional or rental use: 90 days

Exceptions Noted Below; the following items are guaranteed by the original manufacturer and have their own warranty, conditions and limited time:

- Tire Chains: 90 days
- Engines: Will vary as per the manufacturer
Please refer to the engine manufacturer's warranty statement included with the unit. BERCOMAC is not authorized to handle warranty adjustments on engines.

Items and Conditions NOT Covered:

This warranty does not cover the following:

- Pick-up or delivery charges or in-home services fees.
- Any damage or deterioration of the unit, parts and or finish of these due to normal use, wear and tear, or exposure.
- Cost of regular use or maintenance service or parts, such as gas, oil, lubricants, tune-up parts, and adjustments.
- Any part or accessory which has been altered, modified, misused, neglected, accidentally damaged or not properly installed, maintained, stored or repaired not in accordance with the instructions in the owner's manual.
- Repair due to normal wear and or any wear items such as shear pins, bolts, belts, etc.
- Expedited freight fee services for replacement parts.
- Shear bolts and shear pins are to be considered as a preventive measure not as an assured protection, any damages resulting from the lack of shear bolts breakage are not covered.
- Damages due to product being installed on a vehicle other than stipulated in owner's manual.

NOTE: All warranty work must be performed by an authorized dealer using original (manufacturer) replacement parts.

NOTE: Bercomac reserves the right to change or improve the design of any part or accessory without assuming any obligation to modify any product previously manufactured.

Instructions for Obtaining Warranty Services:

Contact dealer where equipment was purchased or any other BERCO service dealer to arrange service at their dealership. Requests for warranty claims must be carried out through the same distribution network used to purchase the product.. Don't forget to bring your proof of purchase (sales receipt) to the BERCOMAC dealer.

Owner's Responsibilities:

BERCOMAC's defective equipment or part must be returned to an authorized dealer within the warranty period for repairs. In the event that defective merchandise must be returned to manufacturer for repairs, freight fees are prepaid and a written authorization from BERCOMAC must be obtained by dealer prior to the shipment. This warranty extends only to equipment operated under normal conditions. To validate a warranty claim, it is the user's responsibility to maintain and service the unit as specified in the owner's manual or to have the unit serviced at their dealer at their expense.

General Conditions:

The sole liability of BERCOMAC with respect to this warranty shall be strictly and exclusively repair and replacement as mentioned herein. BERCOMAC shall not have any liability for any other costs, loss or damage, including but not limited to, any incidental or consequential loss or damage. Taking advantage of the warranty does not in any way extend the length or renewal of the warranty.

In particular, without being limited to, BERCOMAC shall have no liability or responsibility for:

- Travel time, overtime, after hours time or other extraordinary repair charges or relating to repairs and or replacements outside of normal business hours.
- Rental of like or similar replacement equipment during the period of any, repair or replacement work.
- Any communicating or travel charges.
- Loss or damage to person or property other than that covered by the terms of this warranty.
- Any claims for lost revenue, lost profit or any similar costs as a result of damage or repair.
- Attorney's fees.

BERCOMAC's responsibility in respect to claims is limited to making the required repairs or replacement without charge up to our maximum labor rates and pre-established times and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any product or accessory. In no event recovery of any kind be greater than the amount of the purchase price of the product sold.

This warranty gives you specific legal rights. You may also have other rights, which vary from state to state.

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INTRODUCTION

TO THE PURCHASER

This new accessory was carefully designed to give years of dependable service. This manual has been provided to assist in the safe operation and servicing of your attachment.

NOTE: All photographs and illustrations in the manual may not necessarily depict the actual models or attachment, but are intended for reference only and are based on the latest product information available at the time of publication.

Familiarize yourself fully with the safety recommendations and operating procedures before putting the machine to use. Carefully read, understand and follow these recommendations and insist that they be followed by those who will use this attachment.



THIS SAFETY ALERT SYMBOL IDENTIFIES AN IMPORTANT SAFETY MESSAGE IN THIS MANUAL THAT HELPS YOU AND OTHERS AVOID PERSONAL INJURY OR EVEN DEATH. DANGER, WARNING, AND CAUTION ARE SIGNAL WORDS USED TO IDENTIFY THE LEVEL OF HAZARD. HOWEVER, REGARDLESS OF THE HAZARD, BE EXTREMELY CAREFUL.

DANGER: Signals an extreme hazard that will cause serious injury or death if recommended precautions are not followed.

WARNING: Signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

CAUTION: Signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed.

Record your attachment serial number and purchase date in the section reserved below (there is no serial number on the subframe). Your dealer requires this information to give you prompt, efficient service when ordering replacement parts. Use only genuine parts when replacements are required.

If warranty repairs are required please present this registration booklet and original sales invoice to your selling dealer for warranty service.

This manual should be kept for future reference.

Please check if you have received all the parts for your kit with the list of the bag and the list of the box.

SERIAL NUMBER : _____
(IF APPLICABLE)

MODEL NUMBER: _____

PURCHASE DATE : _____



SAFETY PRECAUTIONS



Careful operation is your best insurance against an accident. Read this section carefully before operating the vehicle and accessory. This accessory is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury. All operators, no matter how experienced they may be, should read this and other manuals related to the vehicle and accessory before operating. It is the owner's legal obligation to instruct all operators in safe operation of the accessory.

GLOSSARY:

In this manual, right and left sides are determined by sitting on the seat of the vehicle facing forward.

In this manual, "accessories" means attachments (snowblower, rotary broom, blade etc.) that you install on the vehicle (lawn tractors, A.T.V. s etc).

TRAINING:



This symbol, "Safety Alert Symbol", is used throughout this manual and on the accessory's safety labels to warn of the possibility of serious injury. Please take special care in reading and understanding the safety precautions before operating the vehicle and accessory.

1. Read this owner's manual carefully. Be thoroughly familiar with the controls and proper use of the vehicle and accessory. Know how to stop the unit and disengage the controls quickly.
2. Never allow children to operate the vehicle nor the accessory. Never allow adults to operate the vehicle nor the accessory without proper instructions.
3. No one should operate the vehicle nor the accessory while intoxicated or while taking medication that impairs the senses or reactions.
4. Keep the area of operation clear of all people, particularly small children and pets.

PREPARATION:

1. Thoroughly inspect the area where the accessory is to be used and remove door mats, all foreign objects and the like.
2. For motorized accessories, disengage all clutches and shift into neutral before starting engine.
3. Do not operate the accessory without wearing adequate winter outer garments. Avoid loose fitting clothing that can get caught in moving parts. Wear footwear that will improve footing on slippery surfaces.

4. Handle fuel with care, it is highly flammable.

- a) Use approved fuel container.
 - b) Never add fuel to a running engine or hot engine.
 - c) Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
 - d) Never fill containers inside a vehicle, or on a truck or a trailer bed with a plastic liner. Always place containers on the ground, away from your vehicle, before filling.
 - e) When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
 - f) Keep the nozzle in contact with the rim of the fuel tank or container opening at all times, until refueling is complete. Do not use a nozzle lock-open device.
 - g) Replace fuel cap securely and wipe up spilled fuel.
 - h) If fuel is spilled on clothing, change clothing immediately.
5. Never attempt to make any adjustments while the engine (motor) is running (except when specifically recommended by manufacturer).
 6. Let the vehicle and accessory adjust to outdoor temperatures before using.
 7. Never use an accessory without proper guards, plates, or other safety protective devices in place
 8. Always make sure to wear the appropriate safety equipment required (glasses, muffs, mask...) for each type of product. See operation section.
 9. Always make sure of having safe traction on the vehicle by using the recommended accessories (chains, A.T.V. tracks, counterweights...). See operation section.
 10. Always make sure the all components are correctly installed. (driveline securely attached and locked at both ends, belts properly installed...)
 11. Always handle the winch cable with thick leather gloves.
 12. **Never modify the accessory or any part without the written consent from the manufacturer.**



SAFETY PRECAUTIONS



OPERATION:

1. Do not put hands or feet near, under or inside rotating parts.
2. Exercise extreme caution when operating on or crossing gravel drives, walks or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
3. After striking a foreign object, stop the engine (motor), disconnect the wire from the spark plug(s) and keep wire away to prevent accidental starting. Thoroughly inspect the accessory for any damage and repair damage before restarting and using the accessory.
4. If the unit should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning of trouble.
5. Take all possible precautions when leaving the vehicle unattended. Disengage the power take-off, lower the attachment, place the transmission into neutral, set the parking brake, stop the engine and remove the contact key.
6. Do not run the engine indoors, except when starting the engine and for transporting in or out of the building. Do not operate or let motor run in a storage area without ventilation because gas contains carbon monoxide which is odorless, colorless and can cause death.
7. Never use the accessories across the face of slopes, go from top to bottom. Exercise extreme caution when using equipment on slopes. Do not attempt to clear a steep slope.
8. Never tolerate bystanders in the working zone. Never use an accessory in the direction of bystanders, it might throw gravel or debris that can hurt people or damage property.
9. Never operate the accessory at high transport speeds on slippery surfaces. Use care when backing up.
10. Do not carry passengers.
11. Disengage power to the accessory when it is transported or not in use.
12. Never operate the accessory without good visibility or light.
13. Keep the accessory away from heat sources or flames.
14. Never handle the winch cable or hook while in tension.

MAINTENANCE AND STORAGE

1. When cleaning, repairing or inspecting the vehicle and accessory, make certain that all moving parts have stopped. For gasoline engine, disconnect wire from the spark plug(s) and keep wire away to prevent accidental starting.
2. Check all the bolts and components at frequent intervals to make sure that they are properly tightened.
3. Never store a motorized accessory with fuel in the fuel tank inside a building where ignition sources are present such as hot water and space heaters, clothes dryers, and the like. Allow the engine to cool before storing in any enclosure.
4. Always refer to the owner's manual when you store the accessory and vehicle for a prolonged or an unspecified length of time.
5. Maintain or replace safety and instruction labels, as necessary.
6. For winter accessories, (if applicable), let the engine run for a few minutes after clean snow in order to prevent the rotary parts from freezing.
7. Inspect the vehicle's and accessory's air filter (if applicable) every day. Clean it or replace it as necessary. Change the oil more often when working in dusty conditions. See the vehicle's and accessory's owner's manual.



**THIS SYMBOL MEANS
DANGER !
BECOME ALERT !
YOUR SAFETY IS INVOLVED !**



SAFETY DECALS



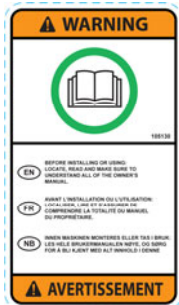
REPLACE IF DECALS ARE DAMAGED
SEE PARTS BREAKDOWN FOR DECAL LOCATION

DECAL #105129



To avoid serious injury:
 Keep hands, feet & clothing away
 from rotating knives while engine is
 running.

DECAL #105130



Before installing or using:
 Locate, read and make sure to
 understand all of the owner's
 manual.

DECAL #105131



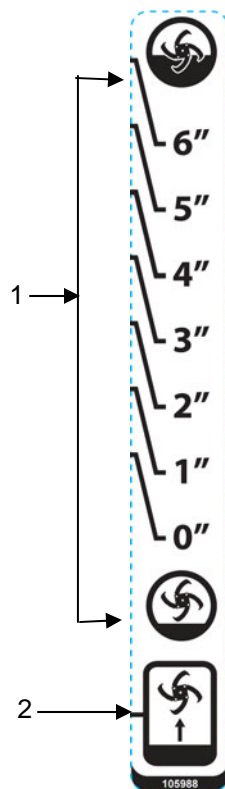
Refer to owner's manual about wearing safety
 glasses, ear muffs and mask.
 Refer to owner's manual for use of counter weights,
 cat tracks and tire chains.

DECAL #105996



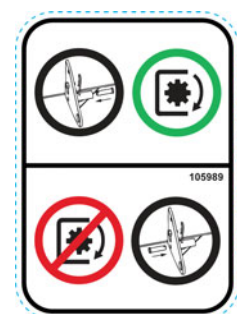
To avoid injury from drive belt:
 Keep hands, feet & clothing away.
 Do not attempt to install or remove drive belt without
 reading owner's manual.

DECAL #105988



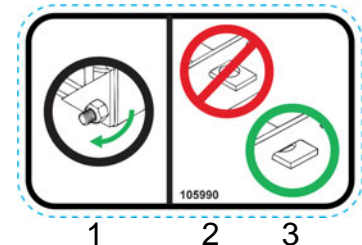
To adjust the tilling depth:
 1. Tiller is in tilling position. On
 the first pass do not till deeper
 than 1".
 2. Tiller is in the raised position.

DECAL #105989

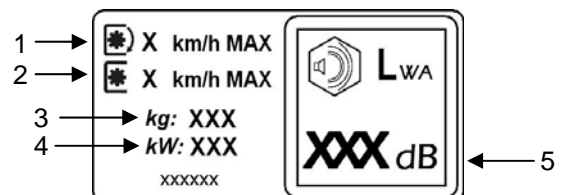


To avoid damaging the tiller:
 Put the pin in the working
 position (on the right) before
 engaging the tiller.
 Do not engage the tiller is in the
 locked position (on the left).

DECAL #105990



For proper adjustment of the
 secondary belt:
 1. Adjusting nut: Turn the nut to
 apply tension on the belt.
 2. Not enough tension on belt.
 Adjustment required.
 3. Belt is well adjusted.



1-Maximum speed when the accessory is in
 operation.
 2-Maximum speed when the accessory is not in
 operation.
 3-The weight of the accessory.
 4-The engine wattage (if applicable).
 5-The sound pressure level (measured in dBA) from
 the driver's position and with the accessory on the
 ground at full engine speed.

ASSEMBLY

CONVERSION TABLE

1" (po, in)	25.4 mm
1' (pi, ft)	0.3 m
1 psi (lb/in ²)	6.89 kPa
1 lb	0.45 kg
1 lbf	4.4 N
1 m/h (mi/h)	1.61 km/h
1 hp (cv)	0.75 kW

GLOSSARY

Quad = V.T.T., A.T.V.

Véhicule tout terrain	V.T.T.
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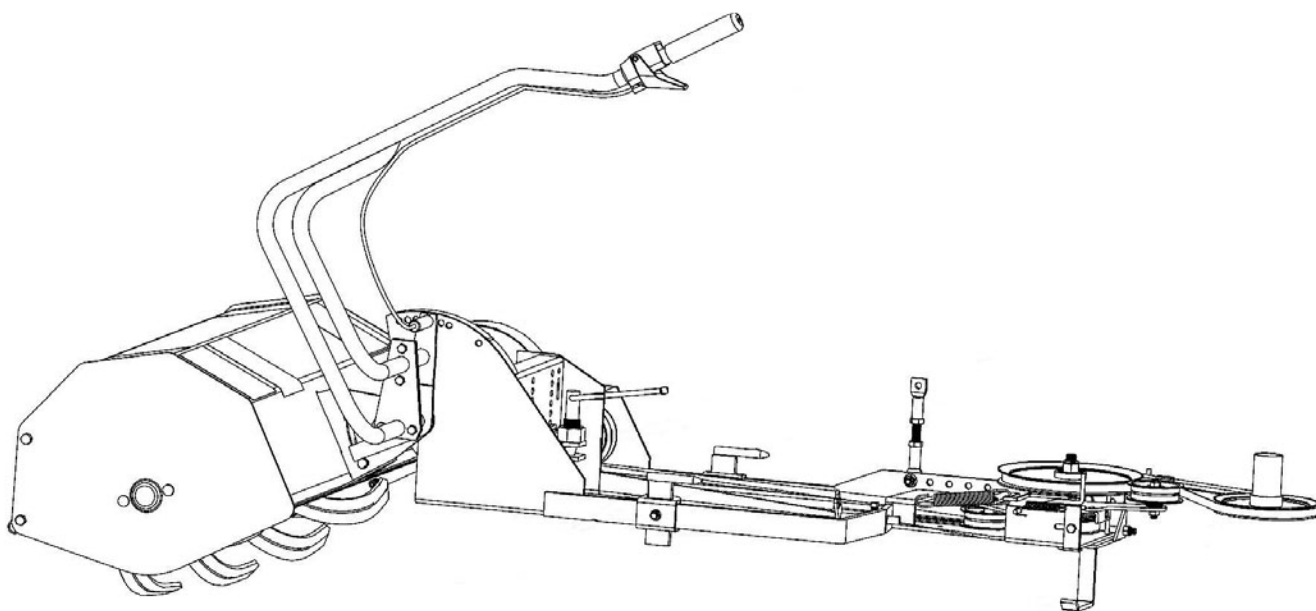
All terrain vehicle	A.T.V.
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P.T.O. = P.D.F

Power take-off	(P.T.O)
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Prise de force	(P.D.F)
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IMPORTANT: TORQUE ALL BOLTS ACCORDING TO TORQUE SPECIFICATION TABLE WHEN STATED: TIGHTEN FIRMLY. REFER TO PARTS BREAKDOWN SECTION FOR PART IDENTIFICATION.



TOOLS REQUIRED:

- 1 Jack
- 2 Axel stands
- 1 Pair of pliers
- 1 Flat screwdriver
- 5 Wrenches, 3/8", 7/16", 1/2", 9/16", 3/4"
- 1 Ratchet
- 3 Sockets 7/16", 1/2", 9/16"
- 1 Measuring tape
- 1 Drill
- 1 Bit 13/32"

Overall view

ASSEMBLY

STEP 1

TRACTOR PREPARATION:



WARNING



TO PREVENT INJURIES:

Stop the motor.

Apply parking brake.

Remove the ignition key.

Disconnect the wire from the spark plug(s) and keep away from spark plug(s) to prevent accidental starting.

Remove the mower deck. See the tractor owner's manual for dismounting instructions.

Measure the height (item 1) between the tractor's rear tow hitch and the ground. **This measurement is needed for Step 2.**

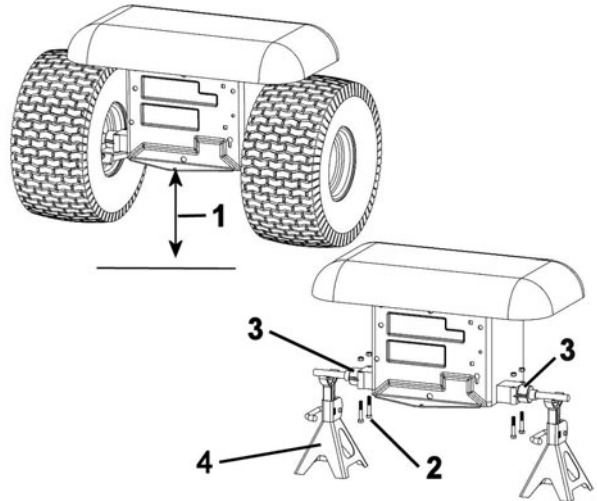
Block the front wheels of the tractor. Using a jack, lift the rear end of the tractor and remove the wheels. Block in place with an axle stand (item 4) under each side.

Determine a set of bolt holes on the transaxle (item 3) that measure 16 1/4" or 14" center to center in order to bolt the mounting brackets.

If there are bolts (item 2) already installed, remove them.

THIS ATTACHMENT IS A UNIVERSAL MOUNT. THE MANUFACTURER DOES NOT GUARANTEE THAT IT CAN BE SUCCESSFULLY INSTALLED ON EVERY BRAND/MODEL OF TRACTOR. A BELT SIZE OTHER THAN THE BELTS SUPPLIED MAY BE NECESSARY.

Please refer to the Recommended Installation Chart that is included for specific brands of tractors.



Remove wheels and bolts

Tractors with parallel transaxle

For tractors with a set of holes on the transaxle that measure 16 1/4" center to center.

Install the mounting brackets (item 1) with the 90° corner (item 4) towards the front of the tractor and towards the center of the tractor as shown.

For Cub Cadet tractors use brackets (item 5).

NOTE: If the distance between the bottom of the transmission and the bolts is less than 2 1/4" (as shown) you do not need the sleeves.

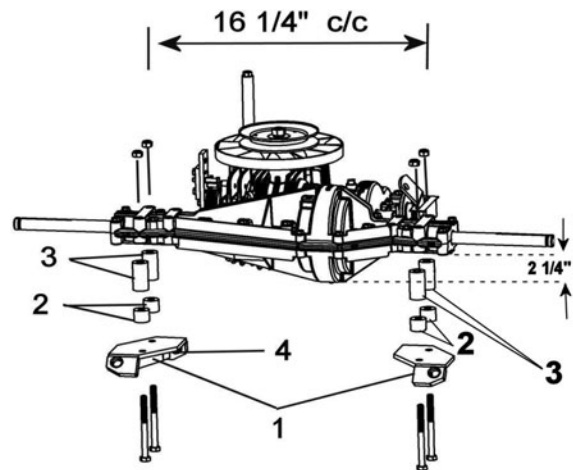
If needed, shim with flat washers or sleeves (items 2 or 3) between the mounting brackets and the transaxle so that the mounting brackets are parallel with the transmission.

Secure with the 5/16" x 3 1/2" or 5/16" x 4" hex bolts and nuts as shown.

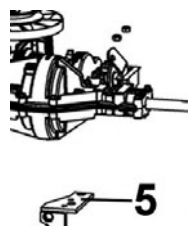
Do not tighten.

NOTE: If your tractor is equipped with 3/8" n.c. hex bolts, drill the holes in the mounting brackets (item 1) to 13/32" diameter and use the hex. bolts 3/8" x 5" and nuts as shown.

Do not tighten.



View of back of tractor
Install mounting brackets



View of back of tractor
Install these mounting brackets
on the Cub Cadet 2000-2500

ASSEMBLY

For tractors with a set of holes on the transaxle that measure 14" center to center.

Install the mounting supports (item 1), the holes (item 2) towards the back and towards the center of the tractor. If necessary, reverse the position of the supports in order to be able to bolt on the transmission.

Secure with the 5/16" x 3 1/2" or 5/16" x 4" hex bolts and nuts.

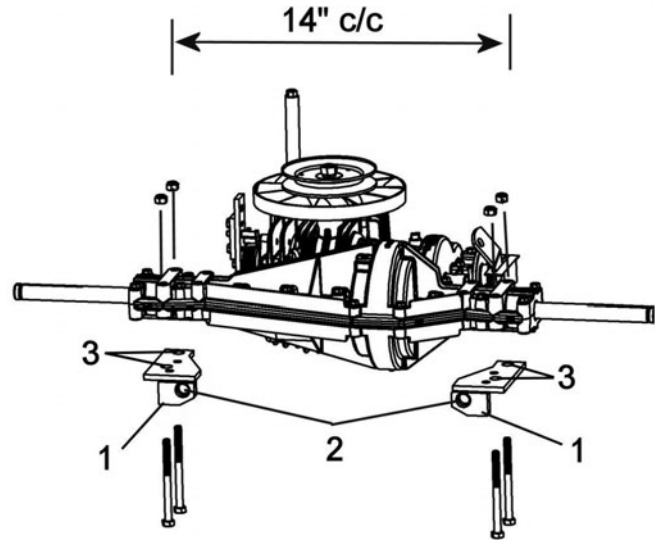
NOTE: If your tractor is equipped with 1/2" bolts, use these bolts in the holes (item 3) on the mounting brackets.

Do not tighten.

NOTE:

If there is less than 6" between the rear bolts of the transaxle and the hole on the rear tow hitch, turn the mounting brackets (item 3) 180° (holes item 2, towards the front) and install the brackets with the holes towards the inside of the tractor.

There must be a distance of 12 1/4" center to center between the holes (item 2).



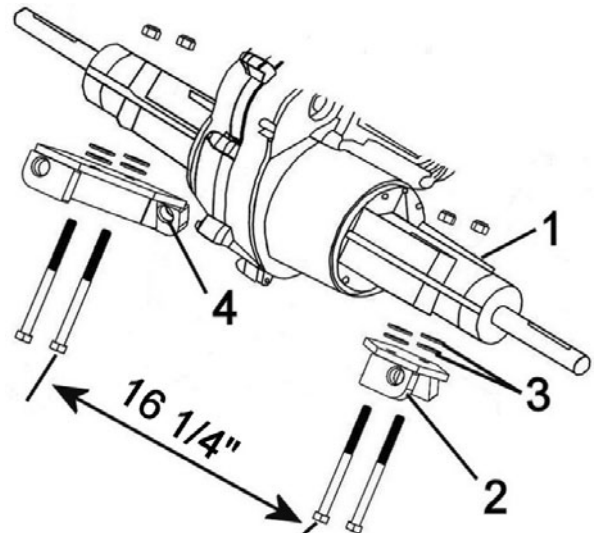
Install mounting brackets

Tractors with angled transaxle:

Install the mounting brackets (item 2), the angled end towards the front of the tractor and the hole (item 4) towards the center of the tractor as shown.

If needed, shim with flat washers (item 3) between the mounting brackets and the transaxle so that the mounting brackets are parallel with the transaxle. Secure with the appropriate length bolts and nuts as shown.

Do not tighten.



View of back of tractor
Install mounting brackets

ASSEMBLY

STEP 2

ROTARY TILLER PREPARATION

Determine the set of holes (item 1) to use to attach the tiller's hitch (item 2) by using the following chart:

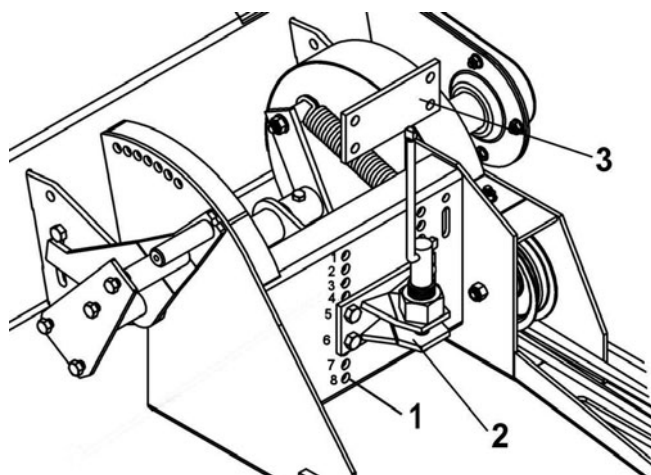
NOTE: If you have used the short sleeves to install the mounting supports, install the tiller hitch (item 2) in **one** set of holes higher than which is mentioned in the chart.

If you have used the long sleeves to install the mounting supports, install the tiller hitch (item 2) in **two** set of holes higher than which is mentioned in the chart.

***Measurement from the ground to the tow hitch**

Sets holes (see figure)

7.00" to 7 5/8"	8 th
7 5/8" to 8 1/4"	7 th
8 1/4" to 8 7/8"	6 th
8 7/8" to 9 1/2"	5 th
9 1/2" to 10 1/8"	4 th
10 1/8" to 10 3/4"	3 rd
10 3/4" to 11 3/8"	2 nd
11 3/8" to 12"	1 st



Attach the tiller's hitch

*These measurements are given as a reference only.

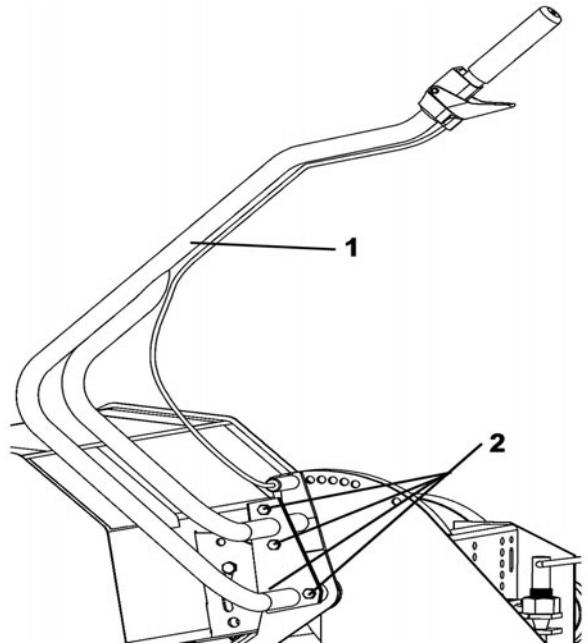
After installing the rotary tiller, the frame should be **4 1/2" to 5 1/2" off the ground.**

Note: If the tiller's frame touches the back of the tractor or the wheels, you may add one to four shims (item 3) between the tiller's back wall and the tiller hitch (item 2). If using more than two shims, use the 3/8 x 2" hex bolts.

Verification: Make sure the tiller's frame will pass under the transaxle when dismantling the tiller.

ASSEMBLY

Install the lift arm (item 1) with four 5/16 x 3/4" bolts (item 2) and flange nuts.



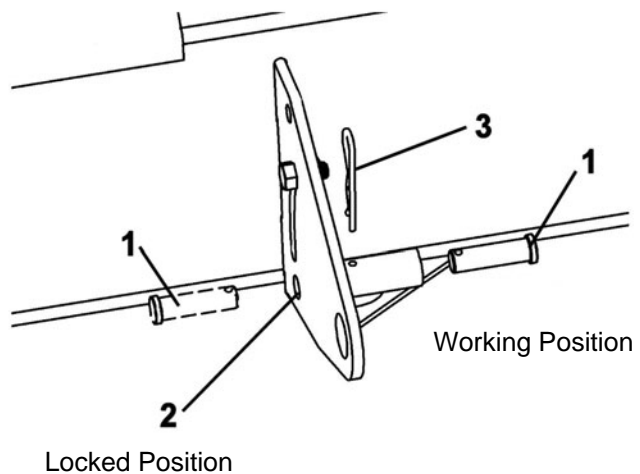
Install the lift arm

For Installation Purposes Only:

Remove the pin (item 1) from the working position and insert it in the locked position (item 2). Secure in place with a hair pin (item 3).

IMPORTANT:

To avoid damage to the tiller, never use tiller with pin in locked position.



Move the pin to locked position

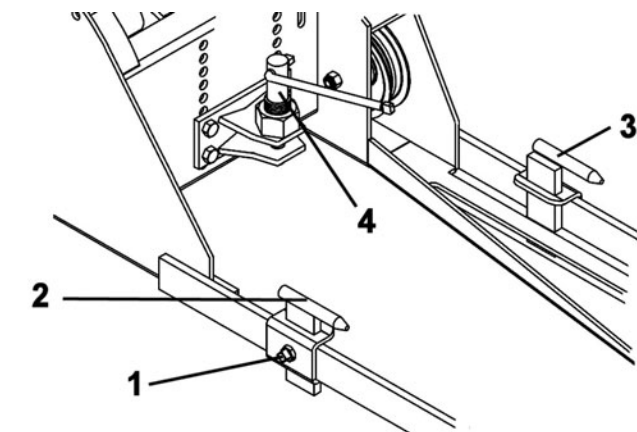
ASSEMBLY

NOTE: If the tractor is equipped with a transmission that has a distance between the bolts of 14", interchange the mounting pins (item 2 on the left side and item 3 on the right side) to get a distance of 12 1/4" center to center between the pins.

Loosen the square head set screw (item 1) that holds the mounting pins (right and left) (items 2 & 3).

Slide the mounting pins towards the back of the frame.

Unscrew and remove the hitch pin (item 4).



Prepare the pins

Prepare the adjusting link as shown.

Apply some grease on the adjusting rod (item 1).

Insert the two nuts (item 2) on the adjusting rod and screw to the middle.

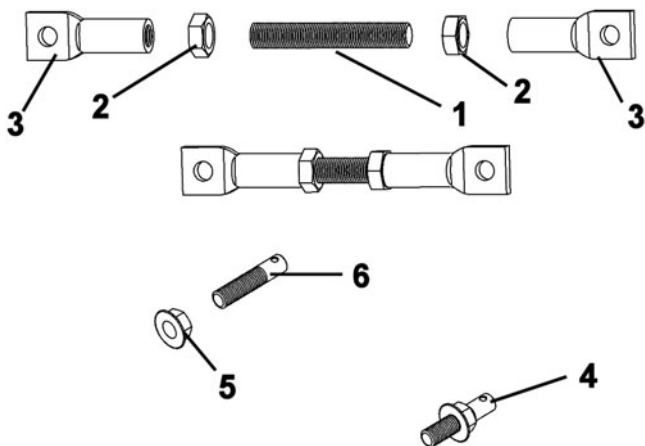
Install the two links (item 3) on each end of the adjusting rod.

NOTE: In some cases it may be necessary to cut the adjusting rod (item 1).

Insert a flange nut (item 5) (head first) on the bolt (item 6) and screw down to the end of the threads as shown (item 4).

For the Cub Cadet 2000 and 2500 series: Items 4, 5 and 6 are not required.

You will be using the 5/16" x 1 1/4" hex bolt and 5/16" nut and a 3/8" x 1" hex bolt and nut.



Prepare the adjusting link

ASSEMBLY

STEP 3

ROTARY TILLER INSTALLATION: **(Primary installation)**

Lower the lift arm to place the rotary tiller's frame flat on the ground. Slide the rotary tiller under the tractor.

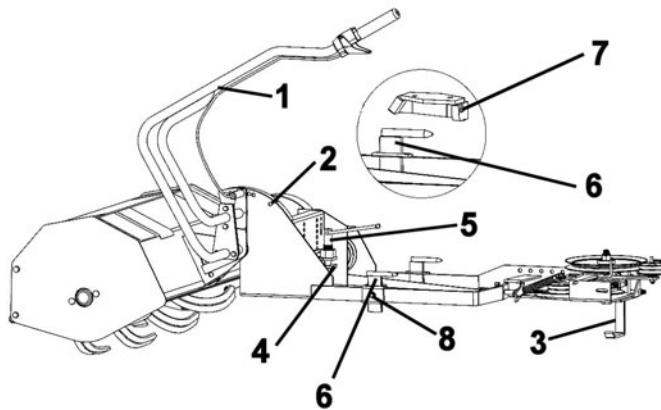
Lower the lift arm (item 1) until it locks in the "UP" position (item 2) to lift the front portion, then lower the support (item 3) so that it supports the rotary tiller frame.

Raise the lift arm until the rotary tiller's hitch (item 4) is even with the tractor's tow hitch. Slide the rotary tiller hitch onto the tractor's tow hitch (the holes must be aligned). Secure by screwing the hitch pin (item 5) firmly.

Line up the rotary tiller's frame with the tractor's frame. Lift and slide the mounting pins (item 6) into the mounting bracket's holes (item 7) (on both sides, previously installed on transaxle).

NOTE: If the tractor is equipped with a transmission that is bolted at 14" center to center, interchange the mounting pins.

Lightly tighten the square head screws on the mounting brackets (item 8).



Install the tiller to tractor

To install the adjustable link, locate a hole or if necessary, drill a hole in the tractor's frame directly above the hole on the tiller's frame as shown.

Note: Check the primary belt alignment before drilling the hole. Make sure the mower supports do not touch the rotary tiller's pulley.

Install the special bolt (item 1) from the outside of the frame and secure in place with a flange nut (on the inside of the tractor frame). Tighten firmly. Do the same on the rotary tiller's frame.

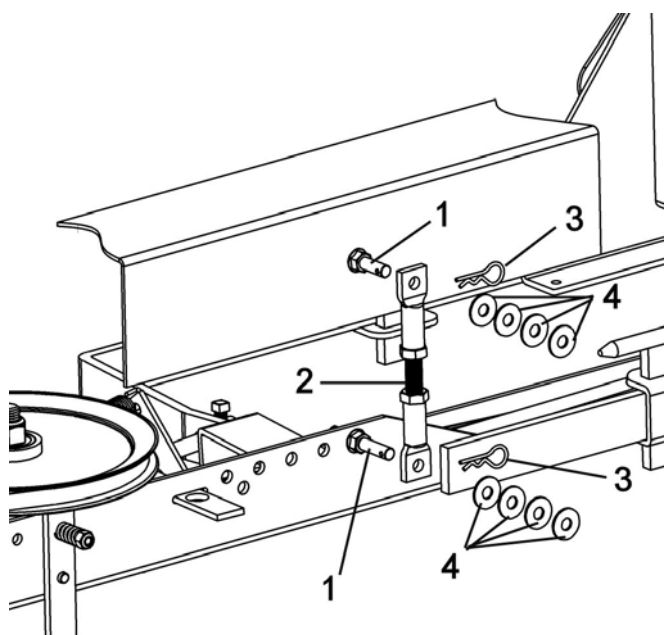
Attach the link (item 2) on the bolts (item 1) installed. Secure with two 2.5 mm. hair pins (item 3).

NOTE: If there is too much space between the link and the frame, add eight flat washers 3/8" (item 4) before inserting the 2.5mm hair pins as shown.

For the Cub Cadet 2000 and 2500 series:

Remove the bolt from the tractor frame and install the link with the 5/16" x 1 1/4" hex bolt and 5/16" nut (head first) to secure the top part of the link on the tractor frame.

Use the 3/8" x 1" hex bolt and nut (head first) to secure the bottom part of the link on the rotary tiller frame.



Install the adjustable link

ASSEMBLY

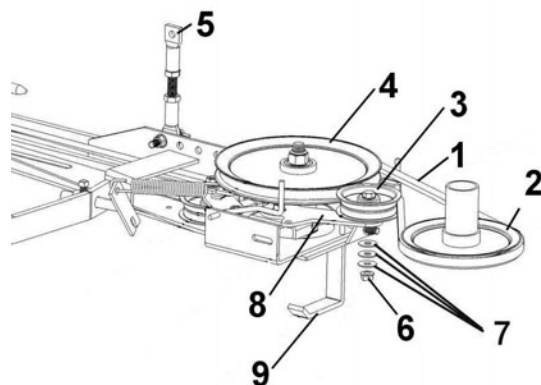
Please refer to the Recommended Installation Chart that is included specific brands of tractors.

Note: Choose the appropriate belt among the ones supplied. **However, the rotary tiller being a universal mounting, a belt size other than the ones supplied may be necessary.**

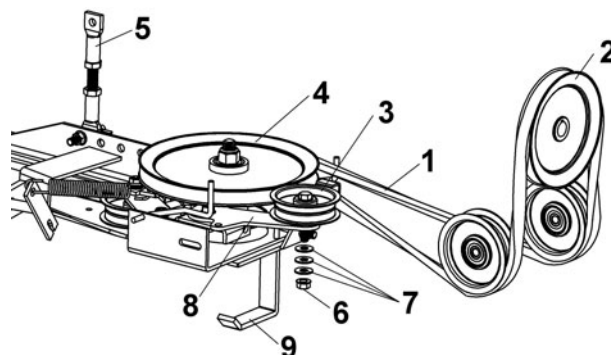
Install the primary belt (item 1) on the engine pulley (item 2), flat pulley (item 3) and the pulley on the tiller (item 4).

Lift or lower the front part of the rotary tiller with the adjustable link (item 5) so that the belt is aligned with the pulleys as shown.

NOTE: If the belt is not aligned with the pulleys, remove the nut (item 6) and add a few 3/8" flat washers (item 7) between the flat pulley and the tension arm (item 8). Make sure the belt is centered on the flat pulley. Secure with the nut. Tighten the nuts on the links very firmly. Lift the support (item 9).



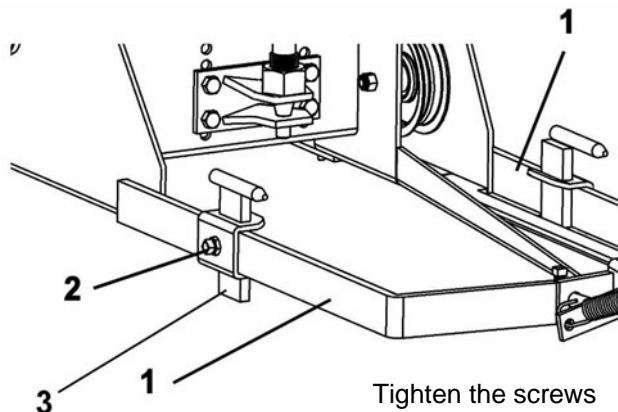
Install primary belt



Make sure both sides of the rotary tiller's frame (item 1) are at the same height from the ground. Tighten firmly the bolts that hold the mounting brackets to the transaxle.

Tighten the square head set screws (item 2) very firmly on the mounting pins (both sides of tractor).

TIP: To make sure the frame is even, the bottom portion (item 3) of the mounting pins must measure equally on both sides. Tire pressure in both rear tractor tires must be identical.



Tighten the screws

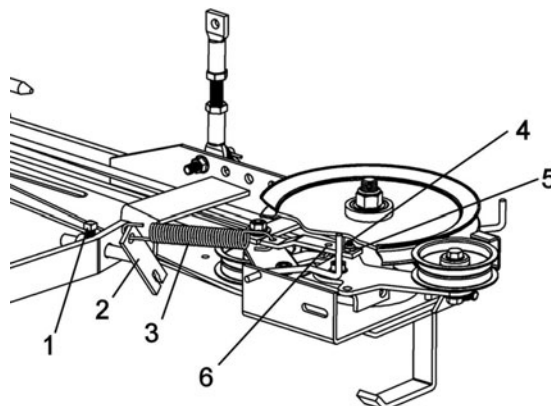
PRIMARY BELT ADJUSTMENT

Tractors with an electric clutch mechanism:

Adjust the tension on the primary belt by loosening the square head set screw (item 1). Pull the tension rod (item 2) to stretch the spring (item 3) by 3/4" to 1".

Tighten the square head screw securely.

NOTE: If more tension is necessary, move the 1/4" x 3/4" (item 4) and the nut (item 5) into the second hole (item 6) in the tension bar.



Adjust tension

ASSEMBLY

CLUTCH CABLE INSTALLATION

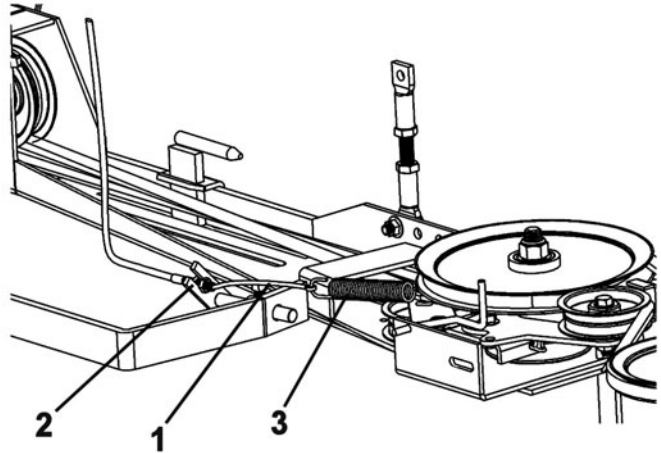
Tractors with manual clutch mechanism:

Disengage the clutch:

If your cable (item 1) does not have a spring at the end, attach the cable to the spring (item 3) on the tiller and attach the cable on the adjustable tension rod (item 2). Secure in place.

Note: The tension rod (item 2) can be adjusted or inverted (as shown) to accommodate the length of the cable.

Note: If you have a cable with a spring at the end, go to the next step.

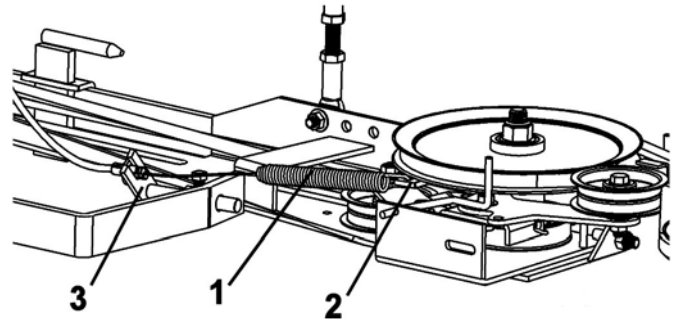


Install cable

If your clutch cable has a spring at the end, you must remove the original spring from the tiller.

Attach the cable's spring (item 1) to the extension bar (item 2). Attach the cable shield on the tension rod (item 3) and secure in place with a hair pin.

Note: The tension rod can be adjusted or rotated to accommodate the length of the cable.



Install spring

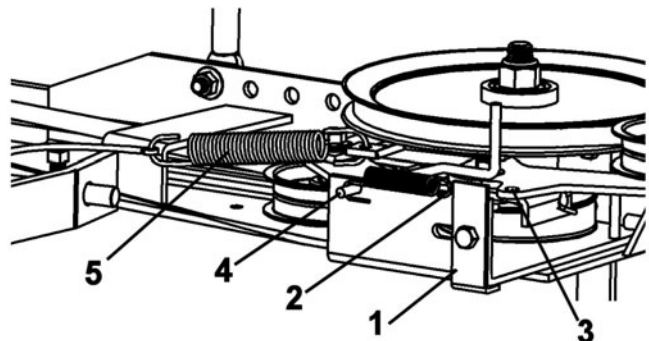
Install the spring (item 2) that releases the tension on the belt, the short hook in the idler arm (item 3) and the long hook on the rod (item 4).

Adjust the cable when the clutch is engaged. The spring (item 5) should be stretched to approx. 3/4" to 1"

Install the stopper (item 1) with a 5/16 x 3/4" bolt, flat washer on the slot and flange nut. Adjust the stopper in order to be sure the belt does not fall off the engine pulley when the P.T.O. is disengaged. However, the belt must be loose enough to allow tiller to stop turning immediately when P.T.O. is disengaged.

OPTION

If your tractor does not have a clutch cable or the cable is too short, a "clutch mechanism kit" under model number #700319 is available as an option.



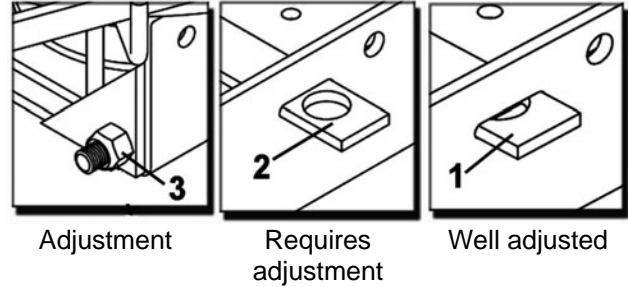
Install spring and stopper

ASSEMBLY

VERIFY THE ADJUSTMENT OF THE ROTARY TILLER'S SECONDARY BELT:

When the belt is correctly adjusted, you should barely see the hole in the tension gauge (item 1).

If the hole is exposed (item 2), readjust the belt by screwing the nut (item 3) until well adjusted (item 1).



Adjust tension

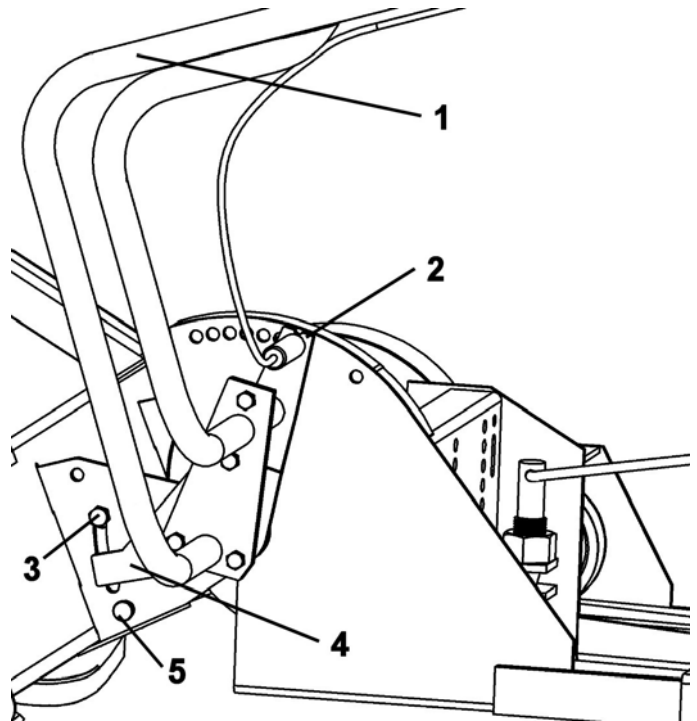
Reinstall the rear wheels on the tractor.

Move the lift arm (item 1) to the hole (item 2) identified "0".

Loosen the bolt (item 3) and slide it down in the slot till it touches the lift arm (item 4).
Tighten firmly.

Remove the pin (item 5) from the locked position and install it in the working position.
Secure with the hair pin.

Raise the rotary tiller and let it run under supervision.
Make sure everything is running smoothly and that both V belts do not touch the belt guides.



Last adjustments

ASSEMBLY

RE-INSTALLATION:



WARNING



TO PREVENT INJURIES:

Stop the motor.

Apply parking brake.

Remove the ignition key.

Disconnect the wire from the spark plug(s) and keep away from spark plug(s) to prevent accidental starting.

On a level surface remove the mower deck from tractor. Remove the pin (item 1) from the working position and install it in the locked position. Secure with the hair pin. (see next page).

Place the rotary tiller's frame flat on the ground by lowering the lift arm.

Slide the rotary tiller under the tractor.

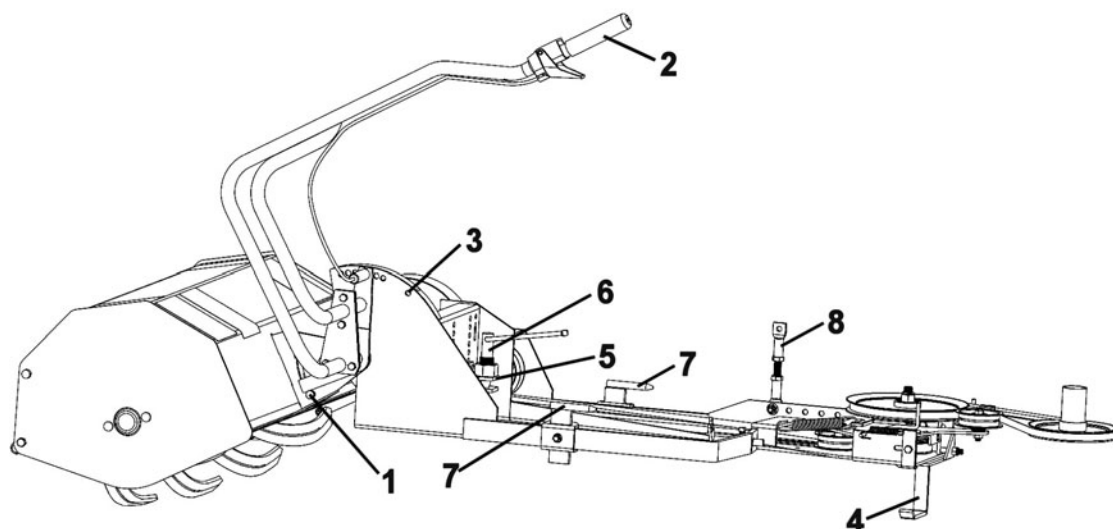
Lower the lift arm (item 2) until it locks into the "UP" position (item 3) to lift the front portion then lower the support (item 4) to rest the tiller's frame on the ground.

Raise the lift arm until the rotary tiller's hitch (item 5) is even with the tractor's tow hitch. Slide the rotary tiller hitch onto the tractor's tow hitch (the holes must be aligned) and make sure the mounting pins (item 7) slide into the mounting bracket's holes (both sides left on tractor frame).

Secure by screwing firmly the hitch pin (item 6).

Install the link (item 8) on the special bolt left on the tractor.

Secure with a 2.5 mm hair pin.



Re-installation

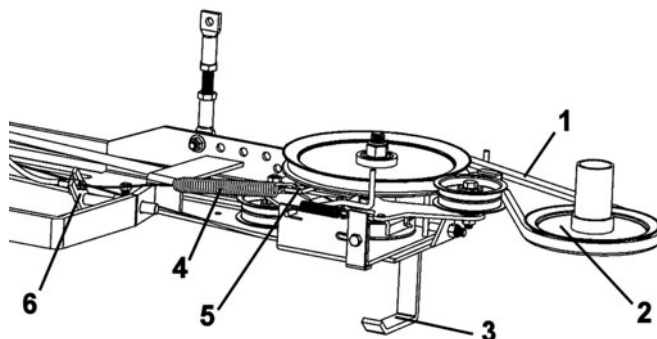
ASSEMBLY

Install the drive belt (item 1) on the engine pulley (item 2).

Lift the support (item 3).

If your tractor is equipped with a manual clutch, install the spring (item 4) at the end of cable to the extension bar (Item 5). Attach the cable shield to the adjustable tension rod (item 6).

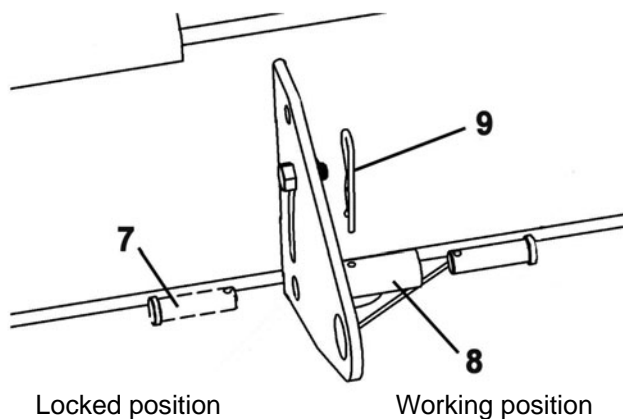
Secure in place with a hair pin.



Install belt and cable

Raise the tiller and remove the pin (item 7) from locked position and insert it in the working position (item 8) inside of the plate.

Secure with a hair pin (item 9).



Locked position

Working position

Move the pin to working position

OPERATION



CAUTION



TO PREVENT INJURIES:

- Remove all objects and keep people away from the working area.
- Never let children operate the rotary tiller or tractor.
- Never let children ride on the tractor or rotary tiller.
- Never operate the rotary tiller without the guards and shields in place.
- Wearing ear muffs, a dust mask and safety glasses are recommended.



WARNING



TO PREVENT INJURIES AND FOR MORE TRACTION WITH ACCESSORY:

- Do not drive faster than 3 km/hr (2 m/hr) with the accessory on the ground.
- Do not drive faster than 10 km/hr (6 m/hr) with the accessory in raised position.
- Do not operate on a slope greater than 10°.

BEFORE TILLING:

- Mow the grass and weeds before tilling, these can wrap around the tines or tine shaft.
- Remove all objects that can damage the rotary tiller such as rocks, branches, etc...
- Check the tines before tilling. Repair or replace any loose, bent or broken tines.
- Do not till when the ground is too wet (if the soil forms a ball in your hand when squeezed). The wet soil will stick to the tines and tine shaft.



IMPORTANT



AVOID DAMAGE TO THE ROTARY TILLER

Never back up or make sharp turns with the rotary tiller in the ground.

When breaking ground, it is recommended to till in two to four stages. The first pass should be tilled at a shallow depth then progressively deeper with each pass.

When only a small area is to be tilled, make a pass through the middle, then circle the pass going towards the outside.

Whenever possible, till straight ahead, tilling in circles will leave ridges.

OPERATING THE ROTARY TILLER



CAUTION



TO PREVENT INJURIES

Tiller may push the tractor forward when tilling in firm soil and on grass.

Make sure the tractor's brakes are functional.

Always make sure the engaging system is functional. If it is not the case, make the required adjustments.

If the tractor is equipped with a manual clutch, always stop the tractor's engine before leaving the driver's seat.

- Push the throttle lever to the medium position.
- Disengage the parking brake.
- Put the P.T.O. control in the ON position to engage the rotary tiller. (See tractor's owner's manual for instructions).
- Lower the tiller and adjust the tilling depth to 1" or deeper after first pass.
- Engage the transmission in first gear or move forward slowly if the tractor has a hydro transmission.
- Till the ground at a shallow depth and at slow traveling speed (3km/h max.)

OPERATION

TRANSPORTING THE ROTARY TILLER:

Always lift the rotary tiller off the ground by lowering the lift arm as far as it will go and disengage the accessory when moving from one tilling area to another.

Drive at a safe traveling speed (max 10km/h) when the tiller is off the ground because of the extra weight due to the rotary tiller, the tractor is unbalanced.

Drive slowly on slopes and rough ground. Even with front weights, it is dangerous to climb slopes greater than 10%.

Never work across the face of a slope

INSPECTING, CLEANING OR PARKING THE ROTARY TILLER



CAUTION



TO PREVENT INJURIES

Always stop the engine and wait for all moving parts to stop before leaving the driver's seat to avoid injuries from the tines.



WARNING



TO PREVENT INJURIES:

Stop the motor.

Apply parking brakes.

Remove the ignition key.

Disconnect the wire from the spark plug(s) and keep away from spark plug(s) to prevent accidental starting.

Lower the tiller to the ground.

MAINTENANCE



WARNING



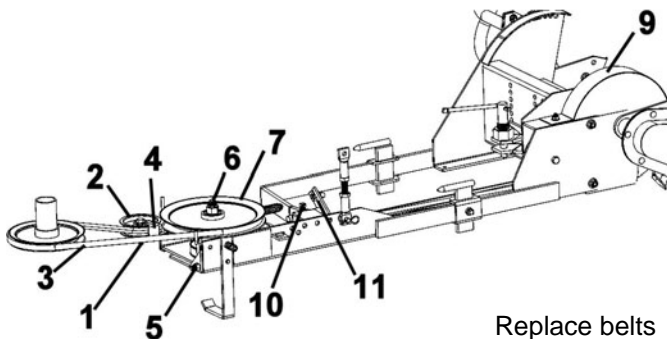
TO PREVENT INJURIES:

Stop the motor.
Apply parking brake.
Remove the ignition key.
Disconnect the wire from the spark plug(s) and keep away from spark plug(s) to prevent accidental starting.
Never work under the vehicle nor under the accessory.

BELT REPLACEMENT:

Primary belt:

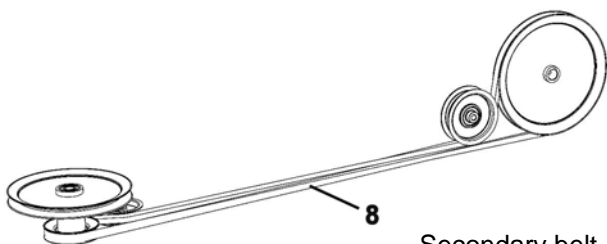
- Remove the belt from engine pulley.
- Remove the bolt (item 1) that holds the idler (item 2).
- Remove the belt (item 3) and reinstall the new one on the double pulley (item 7) as shown.
- Reinstall the idler (item 2) and belt guide (item 4) in the same manner as removed. Make sure the belt guide is 90° with the idler arm.
- Reinstall the belt on the engine pulley.



Replace belts

Secondary Belt:

- Unscrew the belt tension nut (item 5).
- Remove the bolt (item 6) and remove the double pulley (item 7).
- Remove the belt guard (item 9).
- Remove the belt (item 8) and install the new one. Make sure it is routed as shown.
- Reinstall as dismantled by reversing the steps.
- Screw the tension nut to adjust the V-belt until you barely see the hole in the tension gauge.
- See secondary belt adjustment instructions



Secondary belt

PRIMARY BELT ADJUSTMENT

Tractors with an electric clutch mechanism:

Adjust the tension on the front belt by loosening the square head set screw (item 10). Pull the adjustable tension rod (item 11) to stretch the spring by 3/4" to 1". Tighten the screw securely.

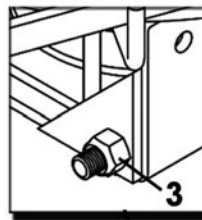
Tractors with a manual clutch mechanism:

Adjust the cable so that the spring is stretched by 3/4" to 1" when the clutch mechanism is engaged.

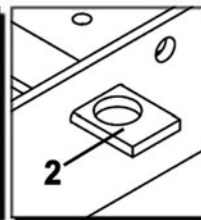
SECONDARY BELT ADJUSTMENT

When the belt is correctly adjusted, you should barely see the hole in the tension gauge (item 1).

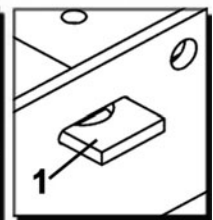
If the hole is exposed (item 2), adjust the belt by screwing the nut (item 3) until well adjusted.



Adjustment



Requires adjustment



Well adjusted

Adjust tension

MAINTENANCE

After every hour:

- Remove trash from the tines if necessary.
- Make sure the engaging system is functional.

After every 4 hours:

- Check belt tension
- Adjust if needed
- Clean under the belt.

After every 8 hours or once a year:

- Grease the tiller drive shaft.
- Check mounting bolts at frequent intervals for proper tightness in order to prevent costly repairs. Make sure your rotary tiller is in good working condition.

MAINTENANCE

REPLACING THE TINES



WARNING



TO PREVENT INJURIES:

Stop the motor.
Apply parking brake.
Remove the ignition key.
Disconnect the wire from the spark plug(s) and keep away from spark plug(s) to prevent accidental starting.

Note: To facilitate replacing the tines, you must remove the tiller from the tractor and turn it upside down.

- Park the tractor safely.
- Raise the tiller as high as it will go and put some blocks under the tiller.

Note: Each group of tines must have two left tines and two right tines.

For reference purposes:

- Alternate left and right tines in each group.
- A bolt with **no spacer** is 3/8 x 1 1/4" long.
- A bolt with **one spacer** is 3/8 x 1 3/4" long.
- A bolt with **two spacers** is 3/8 x 2 1/4" long.

LEFT GROUP OF TINES:

Remove the nuts (item 1), bolts (item 2) spacers (item 3), two left tines (4) and two right tines (item 5).
Install the new tines with same hardware in exactly the same position as the old ones were installed.

MIDDLE GROUP OF TINES:

Remove the nuts (item 6), bolts (item 7), spacers (item 8), two left tines (item 9) and two right tines (item 10).
Install the new tines with same hardware in exactly the same position as the old ones were installed.

RIGHT GROUP OF TINES:

Remove the nuts (item 11), bolts (item 12) spacers (item 13), two left tines (item 14) and two right tines (item 15).
Install the new tines with same hardware in exactly the same position as the old ones were installed.

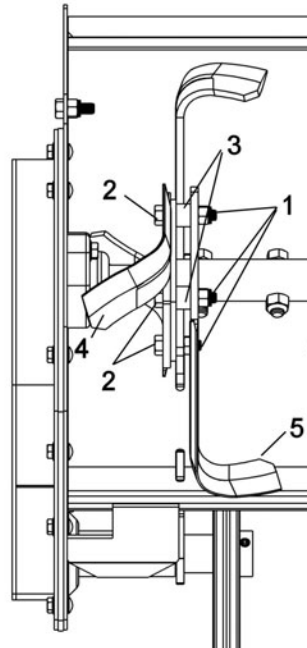


CAUTION

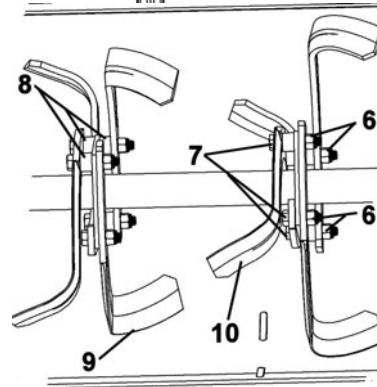


TO PREVENT INJURIES:

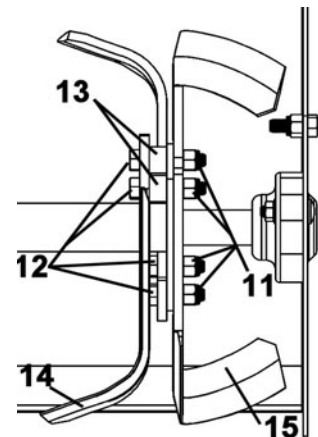
Always safely block the tiller. Never work under the tractor nor under the accessory.



Left group of tines



Middle group of tines



Right group of tines

DISMOUNTING

DISMOUNTING THE ROTARY TILLER



WARNING



TO PREVENT INJURIES:

Stop the motor.

Apply parking brake.

Remove the ignition key.

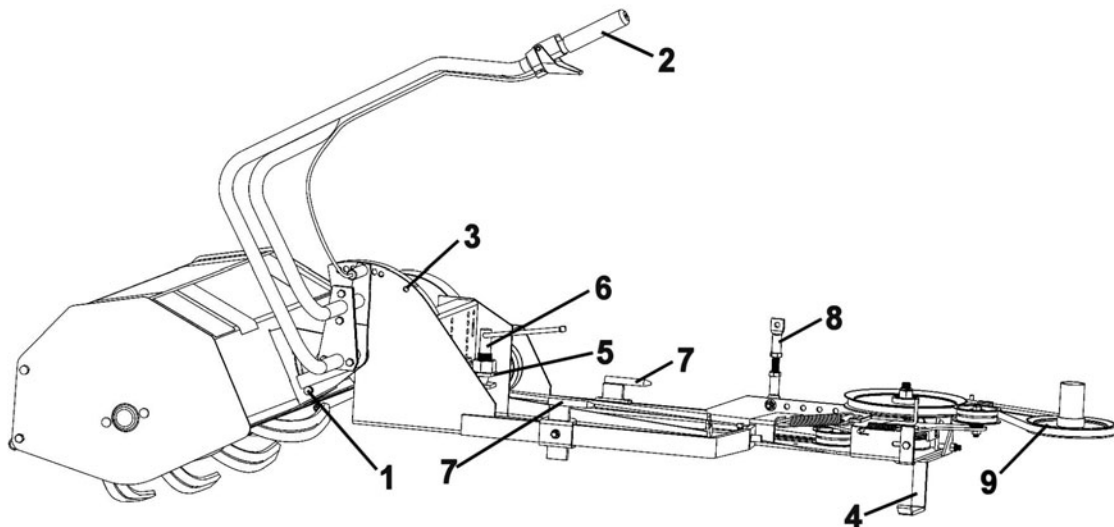
Disconnect the wire from the spark plug(s) and keep away from spark plug(s) to prevent accidental starting.

On a level surface, park the tractor and apply the parking brake.

- a) Install the pin (item 1) in the locked position.
- b) Lower the tiller to the ground.
- c) Remove the V-belt from the engine pulley (item 9).
- d) Disconnect the clutch cable if installed.
- e) Lower the front support (item 4).
- f) Remove the link (item 8) from the tractor frame.
- g) Raise the tiller's lift arm (item 2) to support the tiller frame.
- h) Unscrew the pin (item 6) from the hitch.
- i) Pull out the tiller from the tractor hitch.
- j) Using the lift arm, lower the tiller to the ground and raise the front support.
- k) Place the lift arm so the tiller rests flat on the ground.
- l) Slide out the tiller from the tractor.

END OF SEASON STORAGE:

- a) Clean the rotary tiller.
- b) Check the belts.
- c) Replace damaged or worn parts.
- d) Paint scratched surfaces to prevent rust.
- e) Lubricate the grease points.
- f) Store the tiller on a hard level surface in a clean, dry place. If tiller must stay outside, wrap it in a waterproof cover.

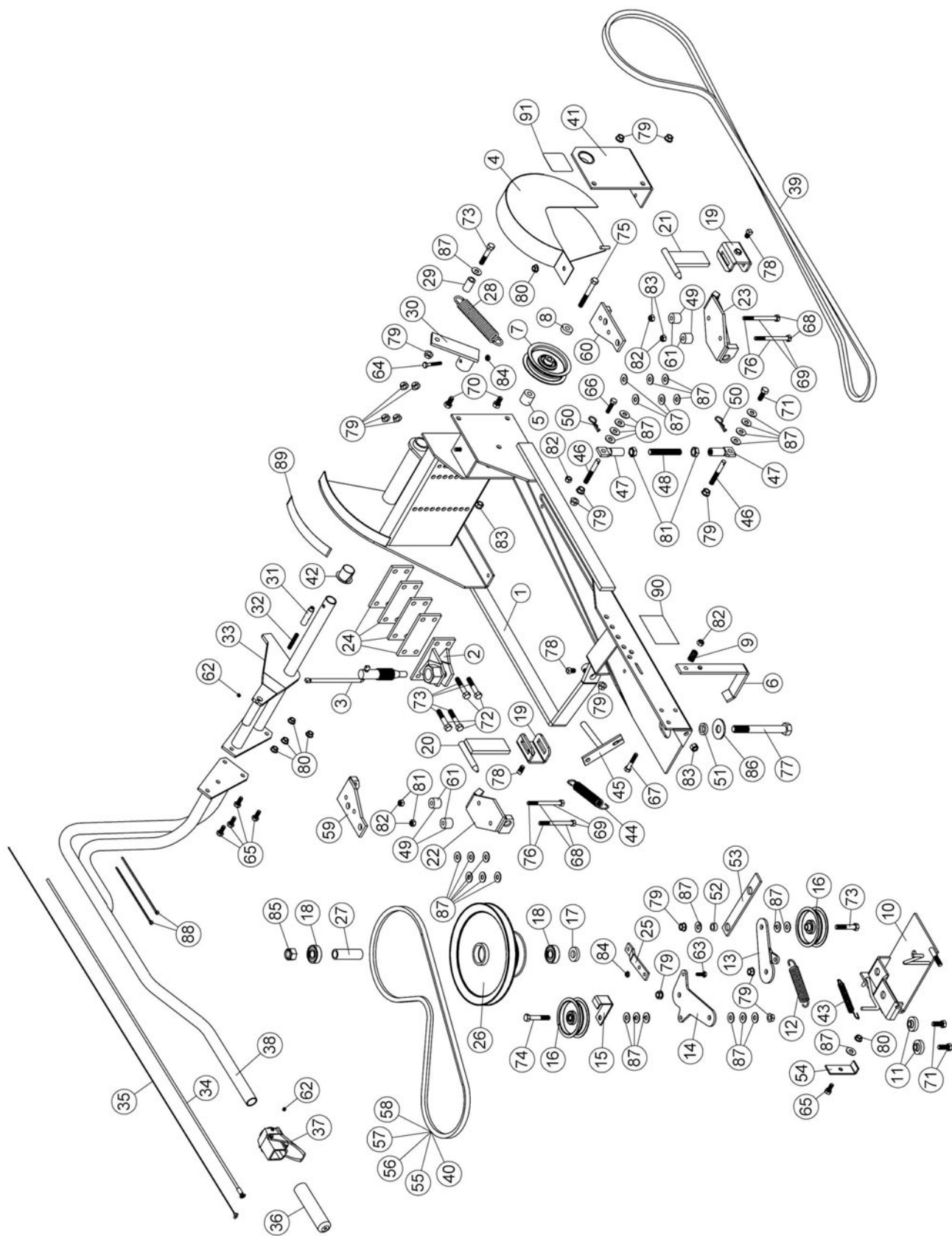


TROUBLESHOOTING

* Please refer to parts breakdown section for parts identification.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Tiller will not turn.	Belt is damaged.	Replace the belt.
	Belt is broken.	Replace the belt.
Tiller operates irregularly.	Belts are loose.	Tighten belts.
	Belts are damaged.	Replace belts.
	A group of tines may be packed up.	Remove any debris from the tines.
		Till at a slow steady speed.
		Make more than one pass. Start by shallow pass then gradually deeper.
		Replace damaged or bent tines.
Tiller is noisy or bouncing at the back of tractor.	Tines are damaged or too many rocks.	Replace bent or damaged tines. Remove any rocks from tilling area.

PARTS BREAKDOWN ROTARY TILLER (FRAME)



PARTS LIST ROTARY TILLER (FRAME)

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Frame	Châssis	1	103436
2	Hitch	Attache	1	103437
3	Hitch pin	Goupille d'attache	1	103438
4	Belt guard	Garde-courroie	1	103439
5	Spacer	Douille	1	103429
6	Support	Support	1	103440
7	Flat pulley	Poulie plate	1	102765
8	Spacer	Espaceur	1	102241
9	Spring	Ressort	1	102892
10	Mounting plate	Plaque de montage	1	103441
11	Flange washer	Rondelle à bride	2	102081
12	Spring	Ressort	1	102152
13	Idler arm	Bras de tension	1	103442
14	Idler arm	Bras de tension	1	103443
15	Belt guide	Guide-courroie	1	102840
16	Flat pulley	Poulie plate	2	102839
17	Spacer	Espaceur	1	102753
18	Ball bearing	Roulement à billes	2	102736
19	Clamp	Crampe	2	103445
20	Right mounting pin	Goupille de montage droite	1	103446
21	Left Mounting pin	Goupille de montage gauche	1	103447
22	Right mounting bracket	Support de montage droit	1	103448
23	Left mounting bracket	Support de montage gauche	1	103449
24	Shim	Cale	4	103450
25	Extension bar	Barre d'extension	1	103444
26	Double pulley inc. 102736 & 102782	Poulie double inc.102736 & 102782	1	103416
27	Sleeve	Douille	1	102782
28	Spring	Ressort	1	102861
29	Sleeve	Douille	1	102418
30	Arm	Bras	1	103451

O/L = Obtain Locally

PARTS LIST ROTARY TILLER (FRAME)

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
31	Pin-lock	Goupille de barrure	1	103398
32	Spring	Ressort	1	102868
33	Lift mechanism	Mécanisme de relevage	1	103452
34	Cable shield	Gaine de câble	1	104304
35	Cable	Câble	1	104305
36	Handgrip	Poignée	1	103453
37	Lever w/104304 - 104305 - s. screw	Levier a/104304 - 104305 - v. pression	1	104306
38	Lift arm	Bras de relevage	1	103454
39	V-belt, B-99 (sb)	Courroie en v, B-99 (sb)	1	103414
40	V-belt, A-53	Courroie en v, A-53	1	103400
41	Left Bracket	Plaque de fixation gauche	1	103456
42	Nylon bushing	Coussinet en nylon	1	103087
43	Spring 1/2"	Ressort 1/2"	1	102003
44	Spring	Ressort	1	102304
45	Adjustable tension rod	Tige de tension ajustable	1	103457
46	Special bolt	Boulon spécial	2	103458
47	Link	Lien	2	103459
48	Adjusting rod	Tige d'ajustement	1	103460
49	Spacer	Douille d'espacement	4	103463
50	Hair pin 2.5mm	Goupille à ressort 2.5mm	2	102013
51	Spacer	Douille	1	103461
52	Sleeve	Douille	1	102322
53	Tension gauge	Indicateur de tension	1	103462
54	Stopper	Butée	1	103486
55	V-belt, A-58	Courroie en v, A-58	1	103518
56	V-belt, A-62	Courroie en v, A-62	1	104299
57	V-Belt , A-56	Courroie en V , A-56	1	104848
58	V-Belt , B-118	Courroie en V , B-118	1	104044
59	Right mounting bracket	Support de montage droit	1	104581
60	Left mounting bracket	Support de montage gauche	1	104582

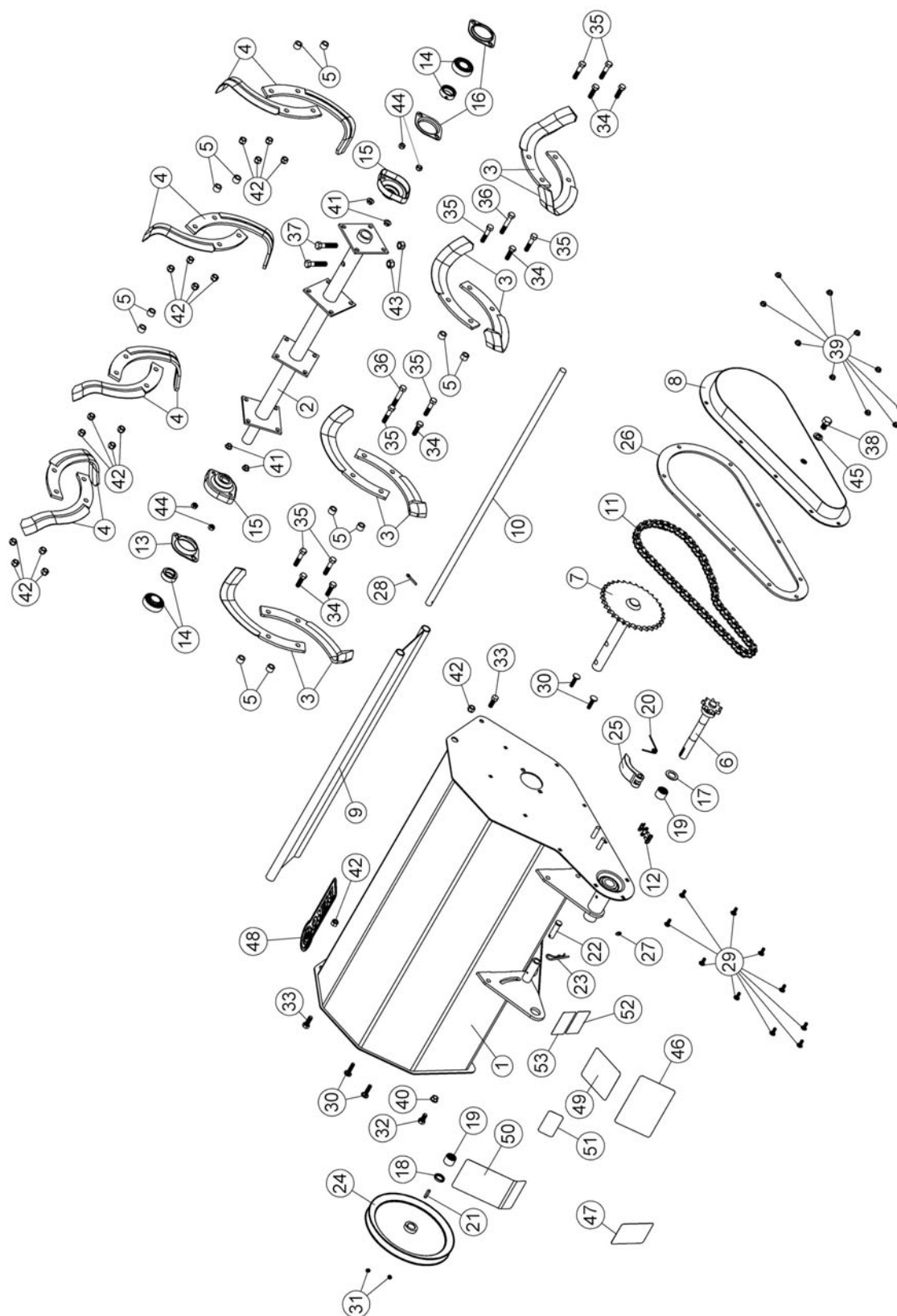
O/L = Obtain Locally

PARTS LIST ROTARY TILLER (FRAME)

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
61	Spacer	Douille d'espacement	4	104583
62	Hex. socket set screw 1/4" n.c. x 1/4"	Vis à pression hex. 1/4" n.c. x 1/4"	2	O/L
63	Hex. bolt 1/4" n.c. x 3/4"	Boulon hex. 1/4" n.c. x 3/4"	1	O/L
64	Hex. bolt 1/4" n.c. x 1 3/4"	Boulon hex. 1/4" n.c. x 1 3/4"	1	O/L
65	Hex. bolt 5/16" n.c. x 3/4"	Boulon hex. 5/16" n.c. x 3/4"	5	O/L
66	Hex. bolt 5/16" n.c. x 1 1/4"	Boulon hex. 5/16" n.c. x 1 1/4"	1	O/L
67	Hex. bolt 5/16" n.c. x 1 3/4"	Boulon hex. 5/16" n.c. x 1 3/4"	1	O/L
68	Hex. bolt 5/16" n.c. x 3 1/2"	Boulon hex. 5/16" n.c. x 3 1/2"	4	O/L
69	Hex. bolt 5/16" n.c. x 4"	Boulon hex. 5/16" n.c. x 4"	4	O/L
70	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	2	O/L
71	Hex. bolt 3/8" n.c. x 1"	Boulon hex. 3/8" n.c. x 1"	3	O/L
72	Hex. bolt 3/8" n.c. x 1 1/4"	Boulon hex. 3/8" n.c. x 1 1/4"	4	O/L
73	Hex. bolt 3/8" n.c. x 2"	Boulon hex. 3/8" n.c. x 2"	6	O/L
74	Hex. bolt 3/8" n.c. x 2 1/4"	Boulon hex. 3/8" n.c. x 2 1/4"	1	O/L
75	Hex. bolt 3/8" n.c. x 3"	Boulon hex. 3/8" n.c. x 3"	1	O/L
76	Hex. bolt 3/8" n.c. x 5"	Boulon hex. 3/8" n.c. x 5"	4	O/L
77	Hex. bolt 5/8" n.c. x 5 1/2"	Boulon hex. 5/8" n.c. x 5 1/2"	1	O/L
78	Square head set screw 3/8" x 1/2"	Vis à pression à tête carré 3/8" x 1/2"	3	O/L
79	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	15	O/L
80	Flange nut 5/16" n.c.	Écrou à bride 5/16" n.c.	6	O/L
81	Hex. nut 1/2" n.c. (thin)	Écrou hex. 1/2" n.c. (mince)	2	O/L
82	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	6	O/L
83	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	6	O/L
84	Nylon insert lock nut 1/4" n.c. (thin)	Écrou à garniture de nylon 1/4" n.c. (mince)	2	O/L
85	Nylon insert lock nut 5/8" n.c.	Écrou à garniture de nylon 5/8" n.c.	1	O/L
86	Flat washer 11/16" hole	Rondelle plate 11/16" trou	1	O/L
87	Flat washer 3/8" hole	Rondelle plate 3/8" trou	31	O/L
88	Tie wrap 7"	Attache de nylon 7"	2	O/L
89	Decal depth	Décalque profondeur	1	105988
90	Decal belt adjustment	Décalque ajustement de la courroie	1	105990
91	Decal miniature danger belts	Décalque miniature danger courroies	1	105996

O/L = Obtain Locally

PARTS BREAKDOWN ROTARY TILLER (HEAD)



PARTS LIST ROTARY TILLER (HEAD)

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Frame	Châssis	1	103417
2	Tine shaft	Arbre des dents	1	103418
3	Left tine	Dent gauche	8	103419
4	Right tine	Dent droite	8	103420
5	Spacer	Douille	12	103421
6	Drive shaft	Arbre d'entraînement	1	103422
7	Sprocket assembly	Pignon assemblé	1	103423
8	Chain guard	Garde-chaîne	1	103424
9	Deflector	Défecteur	1	103425
10	Rod	Tige	1	103426
11	Roller chain #50 x 66 links/conn. link	Chaîne #50 x 66 mailles/maille acc.	1	103427
12	Connecting link #50	Maille d'accouplement #50	1	104324
13	Flangette	Flangette	1	102680
14	Bearing with collar and set screw	Roulement à billes avec collet & vis à pres.	2	103466
15	Dust cover	Protège poussière	2	103428
16	Flangette	Flangette	2	102213
17	Shim washer	Rondelle d'espacement	1	103430
18	Seal	Joint d'étanchéité	1	103431
19	Needle bearing	Roulement à aiguilles	2	103465
20	Spring	Ressort	1	103291
21	Key 3/16" x 3/16" x 1.000"	Clé 3/16" x 3/16" x 1.000"	1	102379
22	Pin	Goupille	1	102188
23	Hair pin 3mm	Goupille à ressort 3mm	1	102617
24	V pulley	Poulie en V	1	103415
25	Tensioner	Tensionneur	1	103289
26	Seal	Joint d'étanchéité	1	104586
27	Grease fitting 1/4" n.f.	Graisser 1/4" n.f.	1	O/L

O/L = Obtain Locally

PARTS LIST ROTARY TILLER (HEAD)

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
28	Cotter pin 5/32" x 1"	Goupille fendue 5/32" x 1"	1	O/L
29	Carriage bolt 1/4" n.c. x 5/8"	Boulon à carrosserie 1/4" n.c. x 5/8"	10	O/L
30	Carriage bolt 5/16" n.c. x 1 1/4"	Boulon à carrosserie 5/16" n.c. x 1 1/4"	4	O/L
31	Hex. socket set screw 5/16" n.c. x 5/16"	Vis à pression hex. 5/16" n.c. x 5/16"	2	O/L
32	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	1	O/L
33	Hex. bolt 3/8" n.c. x 1"	Boulon hex. 3/8" n.c. x 1"	2	O/L
34	Hex. bolt 3/8" n.c. x 1 1/4"	Boulon hex. 3/8" n.c. x 1 1/4"	6	O/L
35	Hex. bolt 3/8" n.c. x 1 3/4"	Boulon hex. 3/8" n.c. x 1 3/4"	8	O/L
36	Hex. bolt 3/8" n.c. x 2 1/4"	Boulon hex. 3/8" n.c. x 2 1/4"	2	O/L
37	Hex. bolt 7/16" n.c. x 2" GR8	Boulon hex. 7/16" n.c. x 2" GR8	2	O/L
38	Hex. bolt 1/2" n.c. x 3/4"	Boulon hex. 1/2" n.c. x 3/4"	1	O/L
39	Flange nut 1/4" n.c.	Écrou à bride 1/4" n.c.	10	O/L
40	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	1	O/L
41	Flange nut 5/16" n.c.	Écrou à bride 5/16" n.c.	4	O/L
42	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	18	O/L
43	Nylon insert lock nut 7/16" n.c.	Écrou à garniture de nylon 7/16" n.c.	2	O/L
44	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	4	O/L
45	Lock washer 1/2"	Rondelle de blocage 1/2"	1	O/L
46	Decal warning safety	Décalque avertissement sécurité	1	105131
47	Decal important	Décalque important	1	105989
48	Berco decal	Décalque Berco	1	102471
49	Decal danger tines	Décalque danger dents	1	105129
50	Decal read instructions	Décalque lire instructions	1	105130
51	Made in Canada decal	Décalque Fabriqué au Canada	1	REF
52	Specifications decal	Décalque spécifications	1	REF
53	Serial number	Numéro de série	1	REF

O/L = Obtain Locally

TORQUE SPECIFICATION TABLE

GENERAL TORQUE SPECIFICATION TABLE USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

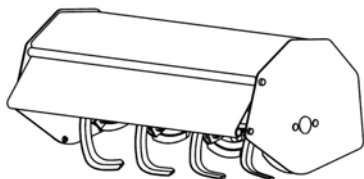
NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

* Thick nuts must be used with grade 8 bolts

SEE Grade No.		2				5				8 *			
BOLT HEAD IDENTIFICATION MARKS AS PER GRADE NOTE MANUFACTURING MARKS WILL VARY		TORQUE				TORQUE				TORQUE			
BOLT SIZE		FOOT POUNDS		NEW TON-METERS		FOOT POUNDS		NEW TON-METERS		FOOT POUNDS		NEW TON-METERS	
Inches	Millimetre	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4"	6.35	5	6	6.8	8.13	9	11	12.2	14.9	12	15	16.3	30.3
5/16"	7.94	10	12	13.6	16.3	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8"	9.53	20	23	27.1	31.2	35	42	47.5	57	45	54	61	73.2
7/16"	11.11	30	35	40.7	47.4	54	64	73.2	86.8	70	84	94.9	113.9
1/2"	12.7	45	52	61	70.5	80	96	108.5	130.2	110	132	149.2	179
9/16"	14.29	65	75	88.1	101.6	110	132	149.2	179	160	192	217	260.4
5/8"	15.88	95	105	128.7	142.3	150	180	203.4	244.1	220	264	298.3	358
3/4"	19.05	150	185	203.3	250.7	270	324	366.1	439.3	380	456	515.3	618.3
7/8"	22.23	160	200	216.8	271	400	480	542.4	650.9	600	720	813.6	976.3
1"	25.4	250	300	338.8	406.5	580	696	786.5	943.8	900	1080	1220.4	1464.5

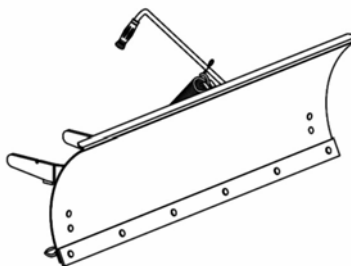
METRIC BOLT TORQUE SPECIFICATIONS							
		COARSE THREAD			FINE THREAD		
Size Screw	Grade No.	Pitch (mm)	Foot Pounds	Newton-Meters	Pitch (mm)	Foot Pounds	Newton-Meters
M6	4T	1.00	3.6 - 5.8	4.9 - 7.9	-	-	-
	7T		5.8 - 9.4	7.9 - 12.7		-	-
	8T		7.2 - 10	9.8 - 13.6		-	-
M8	4T	1.25	7.2 - 14	9.8 - 19	1.00	12 - 17	16.3 - 23
	7T		17 - 22	23 - 29.8		19 - 27	25.7 - 36.6
	8T		20 - 26	27.1 - 35.2		22 - 31	29.8 - 42
M10	4T	1.50	20 - 25	27.1 - 33.9	1.25	20 - 29	27.1 - 39.3
	7T		34 - 40	46.1 - 54.2		35 - 47	47.4 - 63.7
	8T		38 - 46	51.5 - 62.3		40 - 52	54.2 - 70.5
M12	4T	1.75	28 - 34	37.9 - 46.1	1.25	31 - 41	42 - 55.6
	7T		51 - 59	69.1 - 79.9		56 - 68	75.9 - 92.1
	8T		57 - 66	77.2 - 89.4		62 - 75	84 - 101.6
M14	4T	2.00	49 - 56	66.4 - 75.9	1.50	52 - 64	70.5 - 86.7
	7T		81 - 93	109.8 - 126		90 - 106	122 - 143.6
	8T		96 - 109	130.1 - 147.7		107 - 124	145 - 168
M16	4T	2.00	67 - 77	90.8 - 104.3	1.50	69 - 83	93.5 - 112.5
	7T		116 - 130	157.2 - 176.2		120 - 138	162.6 - 187
	8T		129 - 145	174.8 - 196.5		140 - 158	189.7 - 214.1
M18	4T	2.00	88 - 100	119.2 - 136	1.50	100 - 117	136 - 158.5
	7T		150 - 168	203.3 - 227.6		177 - 199	239.8 - 269.6
	8T		175 - 194	237.1 - 262.9		202 - 231	273.7 - 313
M20	4T	2.50	108 - 130	146.3 - 176.2	1.50	132 - 150	178.9 - 203.3
	7T		186 - 205	252 - 277.8		206 - 242	279.1 - 327.9
	8T		213 - 249	288.6 - 337.4		246 - 289	333.3 - 391.6

ATTACHMENTS



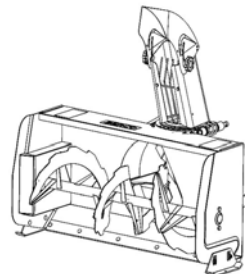
ROTARY TILLER #700312

Mounts to the rear of yard & garden tractors 14 to 25 HP. Comes complete with drive & manual lift mechanisms & mounting hardware.



48" UTILITY BLADE #700266

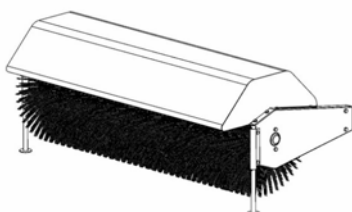
Mounts on the same subframe as the snowblower & rotary broom.



SNOWBLOWER

#700210 40"
#700211 44"
#700255 40"
#700400 48"

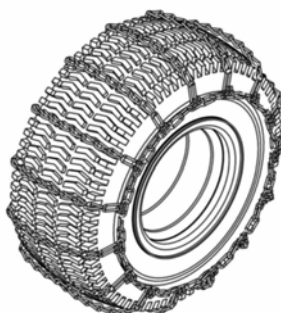
Fits on same subframe as rotary broom and utility blade.



ROTARY BROOM

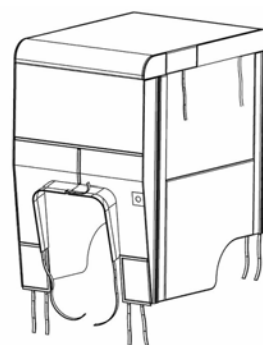
#700380 with nylon brush.
#700381 with polypropylene brush.

Fits on same subframe as snowblower & utility blade. Requires an adaptor.



TIRE CHAINS

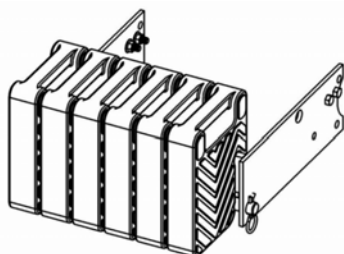
Two link spacing. Required for traction and safety.
Pkg. of 2



TRACTOR WINTER CAB

#700271
#700423

Universal type fits on a wide variety of lawn and garden tractors.



COUNTERWEIGHT

ACCORDING TO TRACTOR MODEL
Required for safety and traction. Counterbalances weight of attachment.

NOTES

[illegible]



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& DEPENDABILITY
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